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### **REMARKS**

Claims 1 and 10 have been amended to clarify the invention. Support can be found on page 6, lines 26-33, for example. Claims 3 and 12 have been amended to add limitations. Support can be found on page 10, lines 15-18, for example. Claims 15-24 have been added. Support for claim 15 can be found on page 6, lines 32-33, for example; support for claims 16-17 can be found on page 9, lines 5-6, for example; support for claims 18-19 can be found on page 7, lines 4-6, for example; support for claim 20 can be found in original claim 13, for example; support for claim 21-24 can be found on page 9, lines 20-30, for example. No new matter has been added. Applicant respectfully requests entry of the amendments and reconsideration of the application in view of the amendments and the following remarks.

#### **Double Patenting**

Claims 1-14 have been rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 6,929,845. A terminal disclaimer in compliance with 37 C.F.R. § 1.321(c) or 1.321(d) accompanies this amendment, thereby obviating this rejection.

Claims 1, 4-8 have been provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8, of copending Application No. 10/381,228. Applicant wishes to hold off on response to this provisional rejection until this rejection becomes the only rejection remaining in this application, or the copending Application is matured into a patent.

#### **Rejection Under 35 U.S.C. § 102**

Claims 1-13 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Dessauer, Auhorn, Malhotra, or Husband. Claims 1 and 10 are independent and have been amended to clarify the invention. Applicant respectfully traverses this rejection.

In Auhorn, an aqueous coating agent consisting of pigments and binders is applied to one or both surface of the paper, any uncoated raw paper (e.g., col. 1, line 65 to col. 2, line 45). Auhorn does not teach or suggest pulp fibers mixed with the specific organic compound having an action to inhibit binding between pulp fibers, unlike claim 1 or 10.

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In Malhotra, a coating is comprised of a desizing component and a hydrophilic polymer (e.g., the abstract). Malhotra does not teach or suggest pulp fibers mixed with the specific organic compound having an action to inhibit binding between pulp fibers, unlike claim 1 or 10.

In Dessauer, an organophilic complex of (a) a water-insoluble hydrated cation-exchangable film-forming smectitic layered silicate and (b) an organic radical must be used so that the organophilic complex forms a barrier layer by reaction with the organic solvent contained in the printing ink, lacquer or other coating composition (e.g., the abstract). Dessauer does not teach or suggest pulp fibers mixed with the specific organic compound having an action to inhibit binding between pulp fibers, unlike claim 1. Dessauer gives absolutely no indication of the specific organic compound having an action to inhibit binding between pulp fibers recited in claims 1 and 10. The Examiner notes that Dessauer discloses benzyl ammonium chloride. However, clearly, benzyl ammonium chloride does not fall within the scope of the organic compound having an action to inhibit binding between pulp fibers recited in claim 1 or 10.

In Husband, a particulate filler material is added to a cellulosic fibrous material. The particulate filler material is treated with a surface treatment agent which is (i) molecules having hydrophilic moiety and a hydrophobic moiety comprising at least one hydrocarbon group having 8 to 30 carbon atoms, (ii) an amine or a quarternary ammonium compound having at least one hydrocarbon group having a chain length of from 8 to 30 carbon atoms, or (iii) a cationic or amphoteric surfactant having at least one hydrocarbon group having a chain length of from 8 to 30 carbon atoms (e.g., page 2, line 18-page 3, line 2).

It is well settled that when the compound is not specifically named, but instead it is necessary to select portions of teachings within a reference and combine them, e.g., select various substituents from a list of alternatives given for placement at specific sites on a generic chemical formula to arrive at a specific composition, anticipation can only be found if the classes of substituents are sufficiently limited or well delineated. *Ex parte A*, 17 USPQ2d 1716 (Bd. Pat. App. & Inter. 1990). If one of ordinary skill in the art is able to "at once envisage" the specific compound within the generic chemical formula, the compound is anticipated. One of ordinary skill in the art must be able to draw the structural formula or write the name of each of the compounds included in the generic formula before any of the compounds can be "at once

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envisaged." One may look to the preferred embodiments to determine which compounds can be anticipated. *In re Petering*, 301 F.2d 676, 133 USPQ 275 (CCPA 1962). See M.P.E.P. § 2131.02.

As described above, Husband discloses extremely broad classes and a very small number of particular compounds including imidazoline such as 1-hydroxythy-2-heptadecenyl imidazoline, and sodium dodecyl sulphate. In Husband, the classes of substituents are not sufficiently limited or well delineated. In contrast, claims 1 and 10 recite ethylene and/or propylene oxide adducts of higher alcohols, polyhydric alcohol-type nonionic surfactants, ethylene oxide adducts of higher fatty acids, ester compounds of polyhydric alcohols and fatty acids, ethylene oxide adducts of ester compounds of polyhydric alcohols and fatty acids, fatty acid amides, hydroxyethyl derivatives of fatty acid amides, and fatty acid polyamide amines. One of ordinary skill in the art could not "at once envisage" the specific compound (the specific ethylene and/or propylene oxides, amides, esters, polyamide amines) within the generic classes. The organic compound having an action to inhibit binding between pulp fibers recited in Claim 1 or 10 could not be anticipated by Husband. Further, in Husband, the particulate filler material must be treated with the surface treatment agent prior to addition to the cellulosic fibrous material.

In view of the foregoing, claims 1 and 10 and the remaining dependent claims could not be anticipated by Dessauer or Auhorn or Malhotra or Husband.

Furthermore, the Examiner asserts: "Even though they are silent with regard to the density/bulk of the paper, this property seems to inherent to their papers, since they use the same process, same raw materials to make same/similar type of papers." As explained above, the references do not use "the same raw materials", and thus, the Examiner's above assumption could not be justified.

M.P.E.P. § 2112 prescribes rationale or evidence tending to show inherency as follows:

"The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' " *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999)" (Emphasis added.)

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Thus, in order to establish inherency of the property, the property is necessarily present in the thing described in the reference, and it would be so recognized by persons of ordinary skill. The Examiner could not show the above, because the organic compound used in the claims are not used in the references. Further, in Example 1 of Dessauer, for example, the paper had a weight of 40 g/m<sup>2</sup> and had a Bekk smoothness of 900 sec at a density of 1.10 g/cc (col. 8, lines 23-29), but that paper was not coated. In Example 3 of Dessauer, the paper having a weight of 38 g/m<sup>2</sup> had a coating of 7 g/m<sup>2</sup> per side, and thus, the coated paper had a weight of 52 g/m<sup>2</sup>. If the thickness of the paper in Example 1 and the thickness of the coated paper in Example 3 are the same (the paper is impregnated with the coating material), the density of the coated paper in Example 3 would be 1.43 g/cc (52/40 x 1.10 g/cc) which is outside the range of 0.90 to 1.15 g/cm<sup>3</sup> recited in claim 1 or 10. This clearly destroys establishment of inherency which must be necessarily present. The other references show no density of paper or coated paper, and this gives an indication that persons of ordinary skill in the art would not recognized the ranges of density of coated paper.

In view of the foregoing, the references could not anticipate claim 1 or 10. At least for this reason, the references also could not anticipate the remaining dependent claims. Applicant respectfully requests withdrawal of this rejection.

#### Rejection Under 35 U.S.C. § 103

Claims 1-14 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Koji (JP 2000-345493) or Koji (JP 11-279988) or Yoshihiko (JP 07-126999) in view of Tadakoro (EP 1001082A1) or Tadakoro (EP 1016755). Claims 1 and 10 are independent and have been amended to clarify the invention. Applicant respectfully traverses this rejection.

As described on pages 5-6 of the present specification, the dull coated printing paper recited in claim 1 or 10 is bulky and yet offers excellent pliability, superior surface smoothness, high degree of print gloss and minimal small-scale gloss variations in the image area and can be obtained by forming a coating layer containing a pigment and a binder on a base paper which contains a specific organic compound having an action to inhibit binding between pulp fibers, and then treating using a calender to set the density of the coated paper to be 0.90 to 1.15 g/cm<sup>3</sup>. Although the pliability could be improved while maintaining the bulkiness of the base paper by

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selecting or blending the compound, forming a coating layer on the base paper alone does not provide a dull coated paper that offers superior surface smoothness and high degree of print gloss and causes a problem generating small-scale gloss variations in the image area. Calendering markedly improves the surface smoothness and degree of print gloss in the coating paper in which the coating is made on the base paper containing an organic compound having an activity to inhibit binding between pulp fibers as compared to the corresponding coated paper in which the coating is made with the same coating layer in the same amount on the base paper without the compound. On the other hand, the calendering reduces the bulking effect due to blending of the organic compound to inhibit binding between pulp fibers, which results in that the similar density is observed in the coated paper in which the coating is made on the base paper containing an organic compound having an activity to inhibit binding between pulp fibers and the corresponding coated paper in which the coating is made with the same coating layer in the same amount on the base paper without the compound. However, by setting the density of coated paper to be 0.90 to 1.15 g/cm<sup>3</sup>, while maintaining the bulkiness due to the blending of an organic compound having an action to inhibit binding between pulp fibers, a dull coated paper that is bulky and highly pliable and offers high surface smoothness, high degree of print gloss and low small-scale gloss variations in the image area can be obtained.

Thus, in the claimed invention, (i) the dull coated printing paper is a calendered coated paper and has a density of 0.90 to 1.15 g/cm<sup>3</sup>, (ii) the base paper is formed with pulp fibers and contains a specific organic compound having an action to inhibit binding between the pulp fibers, and (iii) the coating layer is formed on the base paper and comprises a pigment and an adhesive.

The Examiner asserts: "The primary references do not explicitly teach the use fiber binding inhibiting agents. However, the secondary references, Tadakoro et al., teach paper bulking agents, same as claimed, to improve printability and voluminousness in coated, calendered papers, see abstracts and paragraph [0020] of the EP '082 and abstract and paragraphs [0002] through [0005] of the EP '755." (Pages 6-7)

However, although both EP '082 and EP '755 disclose surface sizing, a coating of a sizing agent is different from a coating layer containing a combination of a pigment and an adhesive recited in claim 1 or 10. The sizing agent is, for example, "a rosin, an alkyl ketene dimmer, gelatin, starch and latex, moreover a filler, a yield improver, a drainability improver, a paper strength

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improver, and the like” (Paragraph [0020] of the EP ‘082) which do not constitute a coating layer containing a combination of a pigment and an adhesive. The papers disclosed in the EP ‘082 or the EP ‘755 are not a calendered coated paper, unlike the claimed paper.

Further, the EP ‘082 focuses on bulkiness and sizing effect and the EP ‘755 focuses on bulky value, brightness, and opacity, with regard to the use of bulkiness improving agents. The density of papers in the EP ‘082 was less than  $0.4 \text{ g/cm}^3$  (Table 3 on page 8), and the density of papers in the EP ‘755 was also less than  $0.4 \text{ g/cm}^3$  (Table 7 on page 18). Neither the EP ‘082 nor ‘755 gives any indication or suggestion that by forming a coating layer containing a pigment and an adhesive and calendering it to adjust the density to 0.90 to  $1.15 \text{ g/cm}^3$ , a dull coated paper that is bulky and highly pliable and offers high surface smoothness, high degree of print gloss and low small-scale gloss variations in the image area can be obtained. One of ordinary skill in the art would expect that the papers of the EP ‘082 or ‘755 are so bulky that a coating material is soaked into the papers and bulkiness could not be maintained, and further, surface property would be deteriorated.

Furthermore, none of the JP ‘493, the JP ‘988, and the JP ‘999 gives any indication or suggestion that by using a specific organic compound having an action to inhibit binding between pulp fibers and calendering a coated paper to adjust the density to 0.90 to  $1.15 \text{ g/cm}^3$ , a dull coated paper that is bulky and highly pliable and offers high surface smoothness, high degree of print gloss and low small-scale gloss variations in the image area can be obtained. The JP ‘493 (a machine translation of which is enclosed herewith for the Examiner’s reference) teaches that the paper has stiffness ([0005]) and suggests that a material (silicate) should not be used in an amount of inhibiting binding between fibers should not be used ([0007]; the undersigned verifies that “after the probability for association between fiber to be checked becoming high and preparing a coating layer” in the machine translation should read “because the probability of inhibiting binding between fibers becomes high, after preparing a coating layer”). The JP ‘988 (a machine translation of which is enclosed herewith for the Examiner’s reference) suggests that a material (silicate) should not be used in an amount of inhibiting binding between fibers should not be used ([0017]; the undersigned verifies that “the probability for association between fiber to be checked becomes high” in the machine translation should read “the probability of inhibiting binding between fibers becomes high”). The JP ‘999 (a machine translation of which is enclosed

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herewith for the Examiner's reference) teaches that the coated paper has high stiffness ([0022]; the undersigned verifies that "the coated paper of stiffness of this invention is expensive" in the machine translation should read "stiffness of the coated paper of this invention is high"). Thus, none of the JP references provides any motivation or suggestion that by using a specific organic compound having an action to inhibit binding between pulp fibers, a dull coated paper that is bulky and highly pliable can be obtained.

It is well settled that the combination of the references taught every element of the claimed invention, however without a motivation to combine, a rejection based on a prima facie case of obvious was held improper. *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998) As discussed above, there is no suggestion or motivation provided in the JP references or the EP references for one of ordinary skill in the art to combine these references.

Further, none of the references teaches or suggests that by calendering a paper using a specific compound having an action to inhibit binding between pulp fibers after forming a coating layer thereon, and adjusting the density to 0.90 to 1.15 g/cm<sup>3</sup>, while maintaining the bulkiness, the dull coated paper that is bulky and highly pliable and offers high surface smoothness, high degree of print gloss and low small-scale gloss variations in the image area can be obtained.

In view of the foregoing, the references could not render claim 1 or 10 obvious. At least for this reason, the references also could not render the remaining dependent claim obvious.

In addition, claims 3 and 10 further recite "the degree of sheet gloss is 35 to 60% and the degree of print gloss is 65 to 90%". In these claims, the dull coated printing paper has specifically a very high degree of print gloss. The degrees of print gloss of the coated printing papers of the JP '493 are as follows (paragraph [0022], Table 1):

	Sheet gloss %	Print gloss %
Example 1	30	60
Example 2	32	62
Example 3	33	57
Example 4	27	57
Example 5	32	62
Comparative Example 1	31	51
Comparative Example 2	30	64
Comparative Example 3	29	57
Comparative Example 4	30	60

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Comparative Example 5	23	49
Comparative Example 6	30	51
Comparative Example 7	25	52
Comparative Example 8	27	52
Comparative Example 9	50	50
Comparative Example 10	12	48

The coated papers of the JP '493 met neither the sheet gloss nor the print gloss recited in the claims, except for the degree of sheet gloss of Comparative Example 9. The degrees of print gloss of the coated printing papers of the JP '988 are as follows (paragraph [0045], Table 1):

	Sheet gloss %	Print gloss %
Example 1	25	53
Example 2	27	55
Example 3	28	60
Example 4	22	48
Comparative Example 1	26	54
Comparative Example 2	25	57
Comparative Example 3	24	60
Comparative Example 4	25	53
Comparative Example 5	18	42

The coated papers of the JP '988 met neither the sheet gloss nor the print gloss recited in the claims.

The JP '999 does not recognize the importance of the degree of print gloss and shows no date.

The EP '082 is not directed to a coated printing paper and is irrelevant to improvement on the degree of print gloss (and the degree of sheet gloss). In view of the foregoing, a combination of the JP '493, the JP '988, or the JP '999, and the EP '082 could not lead to the invention recited in claim 3 or 10. For this additional reason, claims 3 and 10 could not be obvious over the references.

Applicant respectfully requests withdrawal of this rejection.

#### New Claims

Claims 16-24 have been added. These claims depend from either claim 1 or 10. Claims 1 and 10 could not be anticipated by or obvious over the prior art of record, and at least for this reason,



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these claims also could not be anticipated by or obvious over the prior art of record. Further, each new claim recites additional limitations which are not taught or even suggested by the prior art of record. Thus, these claims could not be anticipated by or obvious over the prior art of record.

### **CONCLUSION**

In light of the Applicant's amendments to the claims and the foregoing Remarks, it is respectfully submitted that the present application is in condition for allowance. Should the Examiner have any remaining concerns which might prevent the prompt allowance of the application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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